

The Culture of Silence

Reproductive Tract Infections
Among Women in the Third World

Ruth Dixon-Mueller, Ph.D., and Judith Wasserheit, M.D.



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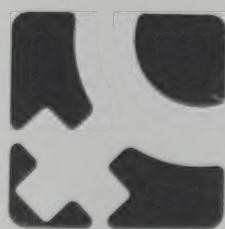
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Introduction

Women have internalized the ethic of nobility in suffering such that pain and discomforts emanating from their reproductive and sexual roles are accepted as the very essence of womanhood ... Social stigma and hence the culture of silence [are] attached to sexual and reproductive problems, the geneses of which are invariably perceived to be women.¹

Mere N. Kisekka

Reproductive tract infections (RTIs) are common diseases with profound social and health consequences for Third World women, men and children. As one of the world's most neglected health problems, RTIs are related in important ways to girls' and women's basic sexual and reproductive health and to the acceptability of family planning programs. Yet, in allocating scarce human and financial health care resources to developing countries, policy makers, program planners, and international donor agencies have generally given low priority to RTIs. In part this is because of the mistaken belief that RTIs are not fatal, that they are too expensive and too complicated to treat, and that in most developing countries they affect only small and specialized segments of sexually active adults such as prostitutes. Each of these assumptions, however, can be challenged by a growing body of evidence.

The culture of silence surrounding RTIs must be broken not only by women, who often place their own health needs after those of their husbands, children, and other family members, but also by health professionals and the international health and family planning communities. The purpose of this paper is to summarize the published data on RTIs among women in developing countries in order to raise questions and encourage discussion about alternative approaches to the diagnosis, treatment and prevention of common RTIs.

What can be done to address the problem? Both prevention and treatment of RTIs are possible. Inexpensive, simple approaches to diagnosis and treatment are already available for some RTIs, and additional methods can be developed or adapted to local conditions in diverse Third World settings. Primary health care and family planning professionals can also integrate culturally appropriate educational programs on RTI prevention and treatment into existing clinic and community services to increase awareness of the effects of RTIs on health and well-being. In view of the connections between sexually transmitted diseases (STDs) and HIV transmission, and contraceptive use and acceptability, there is an urgent need for focused, innovative thinking on long-range solutions.

What are RTIs?

RTIs include a variety of bacterial, viral, and protozoal infections of the lower and upper reproductive tracts of both sexes, and most of them are STDs. Women can be infected not only from sexual intercourse, but also from the use of unclean menstrual cloths; insertion of leaves and other materials into the vagina to increase a male partner's pleasure, prevent pregnancy, or induce abortion; unsafe childbirth or abortion techniques; and other harmful practices such as female circumcision.

Most STDs are RTIs although some STDs, such as syphilis, hepatitis B, and AIDS, are also systemic diseases. Many STDs also affect the mouth, rectum, and urinary tract, the latter being part of the reproductive tract in males but not in females.

Female RTIs originate in the lower reproductive tract (external genitals, vagina, and cervix) and, in the absence of early treatment, they can spread to the upper tract (uterus, fallopian tubes, and ovaries). Infections can ascend from the lower to the upper tract spontaneously to cause pelvic inflammatory disease (PID), but the risks of upper tract infection rise dramatically during procedures such as IUD insertion, abortion, and childbirth when instruments are introduced through the cervix.

Women with RTIs may experience considerable emotional distress in addition to having such

physical symptoms as vaginal discharge, discomfort during intercourse, and severe abdominal pain. RTIs can also be fatal, especially in developing countries where there are limited resources for early diagnosis and treatment. In women, some RTIs result in life-threatening peritonitis (inflammation of the lining of the abdominal cavity), potentially fatal ectopic pregnancy (gestation in the fallopian tube), cervical cancer, and transmission of the human immunodeficiency virus (HIV), the organism that causes AIDS. Some RTIs cause infertility, resulting from post-infectious blockage of the fallopian tubes, fetal loss (miscarriage or stillbirth), and infant death due to premature birth, low birthweight, or congenital infection. Infected children who survive infancy may be permanently disabled or die young.

Infections of the Lower Reproductive Tract

According to the limited data available, lower tract infections are common in most developing countries. Studies of women visiting family planning or obstetric and gynecology clinics, for example, have found evidence of gonorrhea among up to 12 percent of women studied in Asian groups, 18 percent in Latin America, and 40 percent in Africa. Because there have been so few studies of RTIs in developing countries, information on the complications of common infections is scarce. Lack of awareness of RTIs among many health workers and in the general population increases the likelihood that lower tract infections

remain untreated, and thus result both in further spread of infection and long-term complications.

Genital Ulcers and Other Lesions

Syphilis is declining in some countries but increasing in others. The primary and most infectious stage consists of painless ulcers that are often

unnoticed by women. If untreated, the disease proceeds to a secondary stage of systemic infection, followed by an extended latent phase, and a potentially lethal tertiary stage. In pregnant women, early stages of syphilis can result in intrauterine growth retardation, premature birth, stillbirth and congenital infection of the infant. Studies of prenatal clients in 11 African countries

Harmful Practices Associated with Reproductive Tract Infections

Although many indigenous health practices related to female sexuality and reproduction are beneficial or at least benign, some practices can cause severe damage to the female reproductive tract. For example:

Early initiation of sexual activity in young girls. In many parts of the world, girls are married as children to older men and expected to have intercourse with their husbands before they reach puberty. In other cases, young girls are victims of rape, incest, or child molestation. Early and forced coitus can expose young girls to STDs and damage the vagina. Pregnancy occurring before the reproductive tract is fully developed can lead to high rates of miscarriage and stillbirth.

Female circumcision. Performed usually on prepubescent girls, female circumcision carries an immediate risk of extreme pain, shock, severe bleeding, and infection. It is the clinical impression that female circumcision may result in severe complications including recurrent urinary tract infections, PID, and infertility.¹

Unsafe abortion. Throughout history, women have relied on indigenous methods to terminate unwanted

pregnancies. Some are ineffective but harmless, others are poisonous. Leaves, twigs, or other objects inserted in the vagina or uterus can cause infections or damage the reproductive organs. Heavy abdominal massage to induce miscarriage can also damage the organs. Abortion under unsafe conditions can result in heavy bleeding, infection, permanent disability, shock, and death.

Vaginal medication. In some cultures women insert roots, leaves, juices and other materials into their vaginas to treat RTIs, infertility, frigidity, or a variety of non-gynecological diseases. These interventions can result in chemical or physical damage to the vaginal walls and may increase the risk of acquiring some RTIs.

Unsafe childbirth. To speed up delivery, some midwives use manual methods to dilate the cervix; repeated digital manipulation causes vaginal swelling which impedes labor. Traditional birth attendants may also reach into the vagina to extract the fetus or placenta, increasing risks of infection and damage. Heavy abdominal massage is sometimes used to facilitate the birth, and birthing materials and environments may be unclean.

¹ Olayinka Koso-Thomas, *The Circumcision of Women: A Strategy for Eradication* (London: Zed Books, 1987), pp. 25-27.

found evidence of infection in 2–33 percent of pregnant women, with a median infection rate of 12 percent.² Genital lesions caused by syphilis increase the risk of HIV transmission.

Genital herpes, caused by the herpes simplex virus, produces painful genital ulcers that heal spontaneously but recur, the initial outbreak being longest and most intense. Although there is no medical cure yet, symptoms can usually be controlled with therapy. Herpes is most infectious when sores are open, but the disease can also be spread to sexual partners by individuals who are

not aware of any symptoms. Although childbirth during an active outbreak of a mother's primary infection is rare, 20–50 percent of babies born under these circumstances will be infected at sites such as the eyes, skin, mouth, central nervous system or lungs. The majority of infants with infections extending beyond the skin, eyes, and mouth will suffer permanent neurological damage or death.³

Chancroid occurs frequently in developing countries, particularly in Africa. While this disease usually causes a painful ulcer in men, it may occur without symptoms in women. As with other genital lesions, chancroid appears to increase the risk of HIV transmission.

Genital warts are small painless growths caused by the human papillomavirus (HPV), and may be the most common viral STD in industrialized countries.⁴ The precise prevalence of HPV infections is unknown, however, because most HPV infections are asymptomatic. These infections are difficult to treat and recurrent infections are common. Preliminary data have established a link between genital warts and HIV infection. Several of the over 50 types of HPV appear to be associated with increased risk of cervical cancer.

Vaginal Infections

Bacterial vaginosis (BV) is probably the most common of all vaginal infections. It can occur without symptoms, or be accompanied by excessive malodorous vaginal discharge. The organisms causing BV are normally found in low numbers in the vagina. BV results from their rapid multiplica-

The Humiliation of Máade

Máade, a thirty year old educated married woman from Bali, Indonesia, felt her vagina was unusually wet and had a bad odor. Her husband told her she had a terrible smell and he did not want to have sex with her. Máade herself was afraid she had cancer.

As a result of her condition, Máade felt inferior and refused to be with other people. She went to a number of doctors over a period of many months. They gave her something to ease the symptoms but the condition always returned. Finally, she learned about the reproductive health clinic of the Planned Parenthood Association of Indonesia. She went there for screening and treatment and was diagnosed as having bacterial vaginosis. When her condition was cured, both Máade and her husband were very happy.

Case provided by Dr. Inne Susanti, WKBT Clinic Director, Bali, Indonesia. The clinic is engaged in a study of RTIs among its clients.

tion due to a variety of factors that upset the normal balance of bacteria in the vagina. BV may cause upper tract infection. In pregnant women, this may lead to the birth of a premature infant; in non-pregnant women, infertility or tubal pregnancy may result.

Candidiasis, like BV, results from overgrowth of normal vaginal flora. Symptoms include vaginal discharge, irritation, and vaginal itching, although no long-term or severe complications result. Candidiasis is a common infection, occurring among 11–25 percent of women tested in 17 studies conducted in developing countries.⁵ Pregnant women and women taking antibiotics are especially vulnerable.

Trichomoniasis, a very common STD, may be associated with profuse discharge, burning during urination, bad odor or, occasionally, lower abdominal pain. Preliminary studies show an association with increased risk of HIV transmission. The median prevalences of trichomoniasis from studies in Africa, Asia, and Latin America are 19 percent, 11 percent, and 12 percent respectively.

Bacterial vaginosis, candidiasis and trichomoniasis are all treatable infections.

Cervical Infections

Chlamydia, the most common bacterial STD in some industrialized countries, is particularly difficult to control for three reasons. First, the majority of women with chlamydial cervicitis have no symptoms so they rarely seek care. Second, accurate tests for chlamydia are technically demand-

ing and expensive. Finally, at least a week of therapy is required to eradicate lower tract chlamydial infection, in contrast to the single dose regimens available for many other bacterial STDs.

Chlamydia can lead to extremely serious complications. Infection in the upper tract causes infertility more frequently than does infection caused by gonorrhea. During pregnancy, chlamydia may cause stillbirth, premature birth, and congenital infections such as pneumonia or eye infections. It also appears to be associated with an increased risk of HIV transmission. Unfortunately, very little information is available about the prevalence of chlamydia in developing countries. Five African studies found infections in 4–23 percent of women attending family planning or prenatal clinics, or presenting for delivery.⁶

Gonorrhea is believed to be the most common preventable cause of PID and tubal infertility worldwide. Prevalent in most Western countries, gonorrhea is hyperendemic in parts of central Africa. It is spread easily: a man's risk of acquiring the disease in a single heterosexual encounter with an infected partner is approximately 20–25 percent, while a woman's risk is probably higher because infected secretions from the male are retained in the vagina following intercourse.⁷ In women, symptoms of cervical infection can include abnormal vaginal discharge and burning during urination; upper tract infection may be associated with lower abdominal pain and abnormal menstruation; and a blood-borne phase of infection may be manifested by rash and painful joints. Cervical gonorrhea is, however, asympto-

matic in at least 20–50 percent of women. Gonorrhea can produce spontaneous abortion, prematurity, and potentially blinding eye infections in newborns. Preliminary data now link gonorrhea with an increased risk of HIV transmission. Although gonorrhea can be treated with antibiotics, an increasing number of strains are resistant to those antibiotic medications most readily available in the developing world.

Cervical cancer, although not an infection, appears to be causally related to lower tract infections from some subtypes of HPV which also cause genital warts.⁸ About half a million new cases are

diagnosed each year worldwide, more than three-quarters of which are found in developing countries.⁹ One study of family planning, obstetrics, and gynecology clients in Addis Ababa, Ethiopia found that cervical cancer was twice as common among women whose first intercourse had occurred before the age of sixteen, as among those whose first intercourse was at age sixteen or older (21 percent of all clients were age twelve or younger at first coitus).¹⁰ In a number of developing countries, particularly in Africa, cervical cancer is the leading cause of death from cancer. It accounts for at least 3–5 percent of all adult female deaths in many areas of the world.¹¹

Prevalence of Selected RTIs Among Selected Female Populations in Developing Countries*

INFECTION	AFRICA	ASIA	LATIN AMERICA
Gonorrhea			
Median	10%	1%	6%
Range	40%	.3–12%	2–18%
Number of studies	39	9	5
Chlamydia			
Median	7%	8%	
Range	4–23%	2–14%	
Number of studies	5	2	
Trichomoniasis			
Median	19%	11%	12%
Range	2–50%	5–30%	3–24%
Number of studies	15	4	5

* Populations include family planning clients, gynecology clients, prenatal clinic patients, women giving birth in clinical settings, and community-based populations. Studies on female populations presenting specifically with PID or puerperal sepsis have been excluded from this summary as have clients of sexually transmitted disease clinics.

Source: Judith Wasserheit, "The Significance and Scope of Reproductive Tract Infections Among Third World Women," *International Journal of Gynecology and Obstetrics*, Supplement 3, 1989, pp. 154–5.

Consequences of Lower Tract Infections in Women

INFECTION BY SITE	COMPLICATION	LIKELIHOOD OF COMPLICATION AMONG INFECTED WOMEN
Genital Ulcers & Other Lesions		
Syphilis	HIV transmission: Fetal death: Low birthweight or prematurity: Congenital infection of infant:	possible 2–10-fold increase 0–25% for early syphilis 15–50% for early syphilis 40–50% for early syphilis
Genital herpes	HIV transmission: Fetal death: Low birthweight or prematurity: Congenital infection of infant:	possible 2–9-fold increase 54%, 25%* 35%, 14%*
Chancroid	HIV transmission:	50%, 4%*
Genital warts	Increased risk of cervical cancer (for some virus subtypes): Congenital infection of infant:	possible 2–18-fold increase 3–10-fold increase approximately 0.25%
Vagina		
Bacterial vaginosis	Upper tract infection (PID): Low birthweight or prematurity: None	not known 20–25%
Candidiasis	HIV transmission:	possible 3-fold increase
Trichomoniasis		
Cervix		
Chlamydia	Upper tract infection (PID): HIV transmission: Fetal death: Low birthweight or prematurity: Congenital infection of infant:	8–10% if untreated; 10–23% following abortion** possible 3–6-fold increase 10–33% 20–30% 25–30%
Gonorrhea	Upper tract infection (PID): HIV transmission: Miscarriage or stillbirth: Fetal death: Congenital infection of infant:	10–40% if untreated; about 15% following abortion** possible 2–9-fold increase 5–40% 15–67% 30–45%

* The first figure listed refers to risks during the primary outbreak of the disease; the second figure to risks during recurrent outbreaks.

** Samples in industrialized countries only.

Sources: Lucille D. Sheris and Gordon Fox, "Infertility and Sexually Transmitted Disease: A Public Health Challenge," *Population Reports*, Series L, No. 4 (1983), pp. 121–126; Robert A. Hatcher et al., *Contraceptive Technology: International Edition*, 1989, pp. 91–121; Judith Wasserheit, "The Significance of Sexually Reproductive Tract Infections Among Third World Women," *International Journal of Gynecology and Obstetrics*, Supplement 3, 1989, pp. 146–9; Wasserheit, "Reproductive Tract Infections," *Special Challenges in Third World Women's Health*, 1990, pp. 5–6.

RTIs and Infertility in Men

Studies in Bangladesh, Singapore, Indonesia, Nigeria, and Brazil have found that male factors are a major cause of infertility in about 25–30 percent of infertile couples, and contribute to infertility in another 15–20 percent of cases. These figures are probably conservative because infertility investigations traditionally concentrate on women, and men are examined only when all female factors have been eliminated. Also, men often either refuse to acknowledge they might be infertile, or are reluctant to seek treatment. In some cultures infertility is linked to impotence; thus a virile man will insist he cannot be infertile.

STDs, especially gonorrhea and chlamydial infections, can cause infertility in men, although there are other causes such as some non-sexual infectious diseases, congenital disorders, hormonal imbalances, certain drugs, and alcohol.

Infertility in men is most often caused by partial or complete blockage of the sperm ducts or by disorders in sperm production, both of which cause low sperm counts in the semen, or abnormal sperm. Infections begin in the lower reproductive tract (the urethra) and, if untreated, may ascend through the vas deferens (sperm duct) to the upper reproductive tract (the epididymis in the scrotum where sperm are produced). Epididymitis, the equivalent in men of PID in women, may result in infertility in up to 50–80 percent of untreated cases. Men with early signs of infection, called urethritis, often delay seeking medical help. Studies in Nigeria and Uganda found that men waited on average two and a half years after the onset of symptoms before visiting a doctor.

Source: Sherris and Fox, "Infertility and Sexually Transmitted Disease: A Public Health Challenge," *Population Reports*, Series L, No. 4, 1983, pp. 120, 127–131.

Infections of the Upper Reproductive Tract

Pelvic inflammatory disease (PID) consists of infections of the uterus, fallopian tubes, and ovaries. Although PID can occur without significant pain, symptoms usually include abdominal pain and abnormal vaginal discharge. Acute cases may require hospitalization. The spread to the upper reproductive tract of gonococcal and chlamydial infections and of bacterial vaginosis organisms is often facilitated by IUD insertion, unsafe abortion or childbirth. PID can cause severe inflammation and scarring of the fallopian tubes and ovaries, and damage increases with the severity of inflammation and with each recurrent episode.

Long-term consequences of PID include infertility, potentially fatal tubal pregnancy, chronic pelvic pain, and recurrent bouts of upper tract infection. Upper tract infections during pregnancy raise the possibility that a fetus will abort spontaneously or that an infant will be born too soon and too small. Studies of the prevalence of PID in developing countries are scarce, but rates as high as 20 percent have been found in studies of village women in Kenya, Uganda, and India.¹²

RTIs resulting in blockage of the fallopian tubes are the major, preventable cause of female infertility in developing countries.¹³ About 15–25 percent of women who develop PID become permanently infertile because of tubal scarring following infection. Before the advent of antibiotics, infertility rates as high as 60–70 percent

were noted following PID. In some African countries in the 1960's and 1970's, from 15–30 percent of married women passed through their reproductive years without bearing children, whereas the typical rate of involuntary infertility in populations is about 3–7 percent.¹⁴ Although men may be responsible for up to one-third of all

cases of infertility in many developing countries, the blame most often falls on women. A vicious cycle may occur in which STDs introduced by the husband's extramarital contacts result in a wife's post-infectious infertility. He then abandons her, infects other women, and she may turn to prostitution as the only means of supporting herself.

Consequences of Upper Tract Infections in Women

Infections of the uterus, fallopian tubes, and ovaries, called pelvic inflammatory disease (PID), carry serious and sometimes lethal consequences for the woman and the fetus, as follows:

Consequences to the Woman

- Infertility: Because of tubal scarring following infection, about 15–25 percent of women who develop PID become permanently infertile. Rates vary with the number of PID episodes,* severity of inflammation, a woman's age and type of infection.
- Ectopic pregnancy: A Swedish study established a 6–10-fold increase in the risk of ectopic pregnancy following PID, with 6 percent of women having an extra-uterine pregnancy in the first conception following PID. Rates are probably higher in developing countries. Ectopic pregnancy is usually fatal if the fertilized ovum causes the fallopian tube to rupture; emergency treatment is essential.
- Chronic pelvic pain: Following PID, about 15–18 percent of women in the same Swedish study as above experienced chronic pain, which was often disabling.
- Recurrent upper tract infection: This may affect about 20–25 percent of women following PID.

Consequences to a Pregnancy

- Miscarriage and stillbirth: Typically, about 15 percent of recognized pregnancies end in spontaneous abortion, but up to 40 percent of women with chlamydia or gonococcal PID may miscarry or have a stillbirth.
- Low birthweight or premature birth: Both conditions are potentially lethal for the newborn infant. The proportion of low birthweight infants and premature births range from 15–67 percent for women with PID resulting from bacterial vaginosis or from chlamydia or gonorrhea — a 3–5-fold increase over uninfected women.

* Robert A. Hatcher et al., *Contraceptive Technology: International Edition*, 1989, p. 96, report infertility rates of 11% following the first PID episode, 23% following the second, and 54% following the third.

Sources: Sheris and Fox, "Infertility and Sexually Transmitted Disease: A Public Health Challenge," *Population Reports*, Series L, No. 4, 1983, pp. 120-1; Lissekheit, "The Significance and Scope of Reproductive Tract Infections Among Third World Women," *International Journal of Gynecology and Obstetrics*, Supplement 3 1989, pp. 147-8.

Women's Biological and Social Vulnerability to RTIs

The major causes of RTIs in women are STDs, poor obstetric care, and unsafe abortion. Each of these causes is linked inextricably to women's biological and social roles.

The gender asymmetry of STDs places women in a particularly vulnerable position in disease transmission. Not only is an uninfected woman more likely to acquire an STD from an infected male partner than vice versa, but she is likely to suffer more serious long-term consequences such as PID, tubal pregnancy, cervical cancer, and infertility. Moreover, her partner's sexual behavior can affect her risk of developing cervical cancer. The association between cervical cancer and a woman's number of sexual partners is well established. Less recognized is the fact that even if a woman is monogamous, her risk of acquiring cervical cancer increases with the number of sexual partners of her husband.¹⁵

Despite higher levels of male sexual mobility in most societies, as measured by average number of sexual partners, women are often blamed for the spread of STDs. In some languages STDs are even called "the woman's disease." Published research on STDs among heterosexuals often describes female prostitutes as reservoirs of infection while neglecting to recognize the explicitly male demand for services, as well as their refusal to use

condoms, and their role in spreading infections to other women.

Understanding the social position of girls and women within societies and population subgroups is crucial to identifying strategies for the effective prevention, diagnosis, and treatment of RTIs. In societies where a belief in male supremacy coexists with restrictive social structures that limit women's economic, social and legal independence, men often maintain strong control over female sexuality. Due to double standards of sexual behavior, sexual coercion, and gender discrimination in schooling, employment, and property and legal rights, girls and women are frequently powerless either to avoid intercourse with an infected man or to insist that he use a condom or remain monogamous. As a village woman in Sri Lanka explains, "What is the good of refusing [a husband's sexual demands], they will never let us alone. [If I refuse] he will go to some other woman and then what will become of me and my children?"¹⁶

It can be very difficult both for women in nonmarital relationships as well as for married women to ask a man to be tested for an STD, to seek treatment, or even to use a condom, especially where the use of condoms connotes prostitution. Fears of social consequences often take priority over fears of health consequences, making infected women reluctant to inform their male partners of their diagnosis, and non-infected women reluctant to inquire about the health status or other sexual involvements of the men they are with.¹⁷ For many women, the perceived risk of being beaten, divorced or abandoned, or of losing a source of

emotional or financial support, far exceeds the perceived health risk of acquiring an STD.

In many cultures women accept vaginal discharges, discomfort during intercourse, or even the chronic abdominal pain which accompanies some RTIs as an inevitable part of their womanhood. RTIs are something to be endured, along with other reproductive health problems such as sexual abuse, menstrual difficulties, contraceptive side effects, miscarriages, stillbirths, and potentially life-threatening clandestine abortion or childbirth.

RTIs have an additional element of shame and humiliation for many women because they are considered unclean, whereas for young men the symptoms of RTIs are sometimes taken as a sign of sexual potency.¹⁸ The invisibility and taboos surrounding RTIs, and the belief that they should be endured, create a culture of silence within families and communities that can severely compromise women's health.

Behavioral Risk Factors Associated with STDs

A growing body of research on sexual practices contributing to the spread of AIDS in industrialized and developing countries throws some light on the spread of other STDs because of the association between AIDS and STDs. But many of the findings remain tentative or even speculative, and require further investigation in a variety of settings. Specific sexual, marital, and reproductive customs associated with STD transmission some-

The Biological Sexism of STDs

"Both the transmission and the serious consequences of STDs show a biological sexism. Due to the fluid dynamics of intercourse without a condom, the male deposits several milliliters of potentially infectious semen into the vagina, increasing the female's likelihood of acquiring a sexually transmitted disease from any single sexual encounter. For example, the risk of acquiring gonorrhea from a single coital event in which one partner is infectious is approximately 25 percent for men and 50 percent for women. ... Moreover, women suffer more serious long-term consequences from all STDs except AIDS, including PID, ectopic pregnancy, chronic pelvic pain, infertility, and cervical cancer."

Source: Hatcher et al., *Contraceptive Technology: International Edition*, 1989, p. 96.

times appear to cluster along ethnic, social, class, occupational or residential lines. In many cases, however, high-risk behaviors transcend social or geographical boundaries to affect a broad spectrum of the population. The following behaviors are thought to facilitate the spread of STDs:

- Rites of passage such as initiation of young males into sexual intercourse with experienced females.
- Arranged marriages, seduction, or sexual abuse of young girls by older sexually active men.

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- Early sexual debuts of young women combined with multiple sexual partners.^{19, 20}
- Societal tolerance of multiple sexual partners for males and (in some settings) females before or during marriage.
- High frequency of divorce and remarriage, especially when divorce results from STD-induced infertility of either partner.
- Prolonged sexual abstinence following childbirth, when accompanied by a husband's casual extramarital sexual activity.
- Polygyny, especially where taking a second wife is a response to the STD-induced infertility of the husband or first wife, or when the sexual relations of at least one person extend beyond the polygynous unit.²¹
- Frequent or prolonged separation of spouses due to labor migration, especially when males patronize prostitutes or have casual sexual encounters.
- The availability of significant populations of single, separated, or divorced women seeking sexual contacts in exchange for money, gifts, favors, or pleasure.
- Infrequent use of condoms or spermicides in sexual intercourse.
- Other sexual practices such as forced intercourse or anal intercourse in homosexual or heterosexual encounters.

Although most of these examples come from African studies, it is important to note that high risk behaviors are found in many populations in both developing and industrialized countries. For instance, in the United States sexual activity begins early for many girls, and is often combined with multiple sexual partners and infrequent condom use.

Diagnosis and Treatment

Early diagnosis and treatment of lower tract infections is the most effective and least expensive means to prevent upper tract infections. Despite the scarcity of medical resources in most developing countries, some simple steps can be taken to diagnose and treat common RTIs. For example, routine screening and treatment for infection can be incorporated into family planning, prenatal, and maternal and child health services. For many women, these contexts are more socially acceptable than clinics specializing in STDs.

In settings that can accommodate pelvic examinations, two inexpensive clinic-based techniques (each costing only a few cents) are available for diagnosis of such vaginal infections as bacterial vaginosis and trichomoniasis. They are the pH dipstick—a strip of paper which changes color—and potassium hydroxide for the detection of characteristic odor in vaginal secretions. The diagnosis of cervical infections is more difficult, however, as the cervical Gram stain, which is the standard screening test for gonococcal and chlamydial infections, requires a microscope and

some skilled interpretation. In addition, compared to more sophisticated tests for these infections, its accuracy is limited. Improved rapid, inexpensive and easy-to-use diagnostic tests for chlamydia and gonorrhea are urgently needed for resource-poor settings, as are simple diagnostic tests for syphilis and chancroid. Where resources permit, the increased use of PAP smears to detect pre-cancerous cervical lesions associated with HPV could also save women's lives.

In settings where neither pelvic examinations nor laboratory studies are possible, treatment must be based on the patient's symptoms and the health provider's knowledge of the prevalence of different types of infection in the community and awareness of potential complications.²² If a woman complains of vaginal discharge, for example, she is usually treated for gonorrhea first because gonorrhea can result in PID. Chlamydia or bacterial vaginosis, the two other RTIs that may ascend to

AIDS and RTIs

AIDS is a wide spectrum of diseases caused by the human immunodeficiency virus (HIV). About half of HIV-infected persons develop AIDS within 10 years. Eighty percent of AIDS patients die within three years of the onset of AIDS symptoms. AIDS is transmitted through heterosexual and homosexual contact. Some infants are infected directly from their mothers, and significant numbers of both children and adults are infected from blood transfusions and unsafe injections (e.g., inoculation with contaminated needles). HIV infection rates have reached 15–20 percent of adults in some African countries.

In a report published in *The Lancet* this year, the World Health Organization (WHO) estimates that eight to ten million people worldwide are now infected with the AIDS virus, and at least three million women and children will die of AIDS in the 1990's. In the major cities of the Americas, Western Europe and sub-Saharan Africa, AIDS is now the leading cause of death for women between the ages of 20–40 years old, and up to 40 percent of women from 30–34 years old were found to be

infected with the AIDS virus in some central African cities. The proportion of pregnant women infected with the AIDS virus ranges from 10–20 percent in most African countries. By the end of 1992, about four million infants will have been born to women who are infected with the AIDS virus, and nearly a million of these babies will be HIV infected.

AIDS is a systemic disease, not an RTI. The causal connections between RTIs and AIDS are still being explored. But women and men with some RTIs appear to be at greater risk of transmitting and acquiring HIV infection.

Genital ulceration caused by RTIs such as chancroid, syphilis, and herpes increase the likelihood of HIV infection. Trichomonal, chlamydial, and gonococcal infections in women may also increase risk of HIV transmission. As with other STDs, the risk that a woman will acquire HIV infection from an infected male partner in a single sexual exposure appears to be higher than the risk that a man will acquire HIV from an infected female partner.

Sources: Hatcher et al., *Contraceptive Technology: International Edition*, 1989, pp. 76–90; James Chin, "Current and Future Dimensions of the HIV/AIDS Pandemic in Women and Children," *The Lancet*, Vol. 338, February 22, 1990.

the upper tract, are usually treated only if symptoms persist following therapy for gonorrhea and for trichomoniasis. This approach may be inappropriate and it reflects the fact that in most developing countries there is no information about

Infections and the IUD: Two Women's Views

Laura, thirty two years old and married with one child, had an IUD inserted. Six months later she came to the clinic complaining of vaginal discharge, itching, and pelvic pain. Upon questioning, she revealed a history of discharges prior to the insertion of her IUD. Although they had been treated (with interruptions) several times, she still attributed all of her current symptoms to the IUD. She was examined, found to have candidiasis, informed about the infection, and given treatment. It was not necessary to remove her IUD.

Martha, twenty six years old and single, has been sexually active since she was nineteen, and used contraceptive pills until she had an IUD inserted. Six months later, she came to the clinic with dizziness, inflammation, and severe pelvic odor. When questioned, she revealed that she had not come earlier because she thought these discomforts were normal as she had been warned that she could have side effects when the IUD was inserted. Upon examination of the uterus, there were signs of cervicitis and vaginal discharge, with pain and sensitivity. The IUD was removed due to pelvic inflammation.

Cases provided by SI-Mujer, a women's health center in Cali, Colombia.

the prevalence of chlamydia or bacterial vaginosis. More important, since women with RTIs are frequently asymptomatic, many of them will be missed by a system that relies solely on symptoms for treatment decisions. For instance, in a setting where laboratory studies cannot be performed and infections leading to PID are suspected to be common, it may be advisable to administer preventive antibiotics prior to a transcervical procedure such as an IUD insertion or abortion.

Barriers in the Search for Information and Answers

The task of ascertaining the prevalence, causes, and consequences of RTIs in developing countries is complicated by many factors such as:

- Published studies of RTIs in developing countries are limited in number, especially in parts of Asia and Latin America, and they usually test only for classical STDs such as gonorrhea and syphilis.
- Many studies focus on specialized groups such as prostitutes or clients of STD clinics and do not provide data that can be generalized to larger populations. Studies that focus on prenatal or family planning clinic clients or hospital patients typically underrepresent rural and low income populations.
- Diagnosis of some RTIs is difficult in developing countries because of shortages of trained personnel and laboratory equipment.

- Self-reported diagnoses of RTIs and accounts of sexual behavior obtained from surveys are often unreliable.
- Many women and some men with RTIs such as syphilis, herpes, chlamydia, and gonorrhea experience no symptoms.
- RTIs are often found together, making it difficult to sort out their separate causes and effects.

All of these difficulties increase the likelihood that RTIs will go untreated, that STDs will continue to spread, and that the consequences of most infections for women, men, and children will be more severe. In addition, there are other factors that complicate prevention and treatment efforts:

- With STDs, all partners must be notified of possible exposure, examined, and treated to prevent a new cycle of infection.
- Previous exposure to most RTIs does not prevent reinfection.
- Some strains of gonorrhea and of other RTI-causing bacteria are resistant to routine antibiotic treatment.
- Self-diagnosis and self-medication of infected persons lead to inappropriate or incomplete therapies.
- Prolonged use of antibiotics may facilitate growth of resistant strains of bacteria, while under-treatment or reliance on ineffective or harmful folk remedies may result in the

development of severe complications and further spread of infection.

- Women can transmit RTIs to their infants during pregnancy or childbirth as well as acquire RTIs from or transmit them to their sexual partners. Thus a pregnant woman becomes an unwitting, critical link between vertical and horizontal transmission of RTIs.
- Even when symptoms are present, women and men are unwilling to seek medical treatment for RTIs because of fear, denial, or lack of information.
- Girls and women in many cultures have less access to medical care than boys and men,

Mariela and Fabiola: Studies in Self-Medication

Mariela, an eighteen year old student in Cali, Colombia who had been sexually active for over a year, had genital warts which appeared and disappeared with time. She consulted a friend who suggested that she should cut them. Mariela followed this advice but was not successful, and she finally came to the women's clinic to have them treated.

Fabiola, who also had genital warts, went to a pharmacist who prescribed and sold her a strong ointment without adequate instructions. Fabiola arrived at the clinic with external and internal burns on her genitals due to improper use of the medication.

Cases provided by SI-Mujer, a women's health center in Cali, Colombia.

especially in situations where they cannot leave home without permission, or where their health is less valued (by themselves and others) than that of male family members.

- Inadequate sex education and public information campaigns in many settings prevent frank and open discussion of RTIs. Cultural taboos against speaking out about sexuality and genital diseases also hinder communication about the recognition, prevention, and treatment of RTIs and STDs.

Challenges for Health and Family Planning Programs

The management of RTIs in developing countries depends in large part on adapting current programs in Family Planning, Primary Health Care, Child Survival, and Safe Motherhood to provide services for the diagnosis and treatment of these infections. These initiatives will be more successful if they are implemented within a reproductive health framework that enables women to:

- Regulate their own fertility safely and effectively by conceiving when desired, terminating unwanted pregnancies, and carrying wanted pregnancies to term;
- Remain free of disease, disability, or the risk of death associated with sexuality and reproduction;
- Bear and raise healthy children.²³

Family planning programs may have difficulty in persuading clients to accept or continue contraceptive methods in settings where RTI-related infertility or pregnancy loss is common. Many studies have shown that the most common reason women give for discontinuing a contraceptive method is the perception or fear of a side effect. Regardless of whether there is a relationship, users often attribute any symptom, particularly any reproductive tract symptom, to their method of contraception. In addition, once a method is initiated, they are more likely to report a symptom that has previously gone unnoticed. In the absence of accurate diagnosis and effective education and treatment, it is far easier for a woman to blame her vaginal discharge on her contraceptive method than to consider the possibility of her husband's infidelity.

The Challenge for Family Planning

"In some developed and many developing countries, family planning programs may be the only available source of health care for sexually active young women, especially those who are economically disadvantaged. Thus, a primary care level of STD diagnosis and treatment should be provided at all family planning clinics. Preventing and controlling STDs are essential to improving general reproductive health and are the primary means of eliminating preventable infertility."

Source: Robert A. Hatcher et al., *Contraceptive Technology: International Edition*, 1989, p. 91.

Contraceptive Use, Birth Control and RTIs

Some contraceptive methods increase the likelihood of a woman contracting an RTI while others lower it. Family planning providers need to know about these differences.

Latex condoms reduce the risk of contracting gonorrhea, syphilis, and other bacterial and viral STDs such as AIDS. Diaphragms protect against STDs that infect the cervix. In a test tube, commonly used spermicides can kill most organisms that cause STDs, especially those causing gonorrhea and chlamydia, but their effectiveness in vaginal use among different populations is not known. Barrier methods and spermicides may offer some protection against cervical cancer.

Oral contraceptives provide no protection against lower tract RTIs. They may increase slightly the risk of candidiasis, chlamydia, and genital warts, but only margin-

ally reduce the risk of PID and the severity of tubal inflammation. Long-acting progestins such as injectables and implants may also help prevent PID, but few data are available. Hormonal methods help protect against uterine and ovarian cancer.

IUDs increase the risk of bacterial vaginosis. IUD users are also about two to five times more likely to develop PID than women not using a contraceptive method. Risks are highest for women who have never had a child, are exposed to STDs, have multiple partners, or have had an IUD inserted during the prior three months. A history of PID is a contraindication to IUD use.

Abortion and deliveries performed in the presence of underlying RTIs or with unclean hands or instruments place women at increased risk of infections and sepsis.

Sources: Sherris and Fox, "Infertility and Sexually Transmitted Disease: A Public Health Challenge," *Population Reports*, Series L, No. 4, 1983, pp. 141-2; Hatcher et al., *Contraceptive Technology: International Edition*, 1989, p. 92; Wasserheit, "The Significance and Scope of Reproductive Tract Infections Among Third World Women," *International Journal of Gynecology and Obstetrics*, Supplement 3 1989, pp. 147-158.

Family planning and health care providers can take a number of positive steps toward the prevention, diagnosis, and treatment of common RTIs. These include:

- Providing, in community health campaigns, information about the causes, symptoms, consequences, and sources of care for common RTIs among women and men, adolescents and children.
- Providing technically appropriate routine diagnostic and treatment services or referrals for RTIs, particularly for women at risk of

acquiring PID-related infertility during IUD insertion or abortion, and for pregnant women at risk of miscarrying or infecting their infants.

- Encouraging women to bring their sexual partners for diagnosis and treatment of STDs, and providing comfortable and supportive counseling services for both sexes.
- Strengthening efforts to improve obstetric care, including training traditional practitioners how to reduce the risk of infection during uncomplicated births and when to refer women to health centers for further attention.

- Providing safe early pregnancy termination services to eliminate risks to women's lives, health, and future fertility.
- Teaching people about contraceptive methods most likely to offer protection against infection, such as condoms for men, and barrier methods (diaphragms, cervical caps, sponges) and spermicides (foams, jellies, suppositories) for women.
- Initiating sex education programs for adolescents and adults in schools and communities that include information on sexuality, reproduction, and contraception, encourage

reflection on male and female roles in society, and empower women to assume greater control over their own lives.²⁴

Despite the difficulties in obtaining accurate information about RTIs in Third World populations and in designing appropriate interventions, much can be done. The challenges are to think creatively about how existing programs can be adapted to meet women's reproductive health needs in this crucial area, and to allocate the necessary resources. Will the culture of silence prevail or can it be overcome within families, within communities, and among health professionals?

Notes

¹ Mere N. Kisekka, "Reproductive Health Research and Advocacy: Challenges to Women's Associations in Nigeria," paper presented at the conference of the Society of Obstetrics and Gynecology of Nigeria, Calabar, September, 1989, pp. 2-3.

² Judith Wasserheit, "Reproductive Tract Infections," in *Special Challenges in Third World Women's Health* (New York: International Women's Health Coalition, 1990), p. 8. Presentations at the 117th Annual Meeting of the American Public Health Association, Chicago, Illinois, October 1989.

³ S. Stagno and R.J. Whitley, "Herpes Virus Infection in the Neonate and Children," in K.K. Holmes et al., eds., *Sexually Transmitted Diseases* (New York: McGraw Hill, 1990), pp. 863-87.

⁴ Robert A. Hatcher et al., *Contraceptive Technology: International Edition*, (Atlanta: Printed Matter, 1989), p. 106.

⁵ Judith Wasserheit, "The Significance and Scope of Reproductive Tract Infections Among Third World Women," *International Journal of Gynecology and Obstetrics*, Supplement 3 (1989), pp. 154-5.

⁶ Wasserheit, *Ibid.*, p. 154.

⁷ Hatcher et al., 1989, p. 96; see also Jacqueline D. Sherris and Gordon Fox, "Infertility and Sexually Transmitted Disease: A Public Health Challenge," *Population Reports*, Series L, No. 4 (Baltimore: Population Information Program, The Johns Hopkins University, July, 1983), p. 121.

⁸ Wasserheit, 1989, p. 148; see also Ralph M. Richart, "Cervical Cancer in Developing Countries," in *Special Challenges in Third World Women's Health*, (New York: International Women's Health Coalition, 1990), p. 17. Presentations at the 117th Annual Meeting of the American Public Health Association, Chicago, Illinois, October 1989.

⁹ Richart, p. 17.

¹⁰ Half of the women had intercourse before their first menstruation. Early coitus was also associated with high rates of STDs in later clinic visits: half of those women having first intercourse before age 13 showed signs of syphilis, hepatitis B, chlamydia, herpes, and PID, and two-thirds showed signs of gonorrhea. See M. Elizabeth Duncan et al., "First Coitus Before Menarche and Risk of Sexually Transmitted Diseases," *The Lancet*, Vol. 335 (February 10, 1990), pp. 338-340.

¹¹ Richart, p. 17.

¹² Wasserheit, 1989, pp. 154-5.

¹³ Evidence from an international study of infertile couples by the World Health Organization suggests that tubal blockages resulting from a history of STDs were a more important risk factor for infertility among couples in Africa and Latin America than were complications from previous abortions or childbirth. The reverse was true for couples in Asia, where tubal blockages from post-abortion infections were especially important (Wasserheit, 1989, p. 161).

¹⁴ Wasserheit, 1989, p. 160; Sherris and Fox, pp. 115-118.

¹⁵ Duncan et al., p. 338.

¹⁶ Bryce Ryan, "Institutional Factors in Sinhalese Fertility," *Milbank Memorial Fund Quarterly*, Vol. 30 (October 1952), p. 376; see also Barbara O. de Zalduondo, Gernard I. Msamanga, and Lincoln C. Chen, "AIDS in Africa: Diversity in the Global Pandemic," *Daedalus*, Vol. 118, No. 3 (Summer, 1989), pp. 188-9.

¹⁷ Ibid., p. 85.

¹⁸ A.O. Sogbetun, K.O. Alausa, and A.O. Osoba, "Sexually Transmitted Diseases in Ibadan, Nigeria," *British Journal of Venereal Disease*, Vol. 53 (1977), p. 158.

¹⁹ Twenty-two percent of the female clients of an STD clinic at the University College Hospital in Ibadan, Nigeria were under ten years of age. Researchers identified a number of possible routes of infection including early sexual intercourse, sometimes incestuous. "A contributory factor to this high incidence of gonococcal infection in prepubertal females may be the belief among some uneducated members of the community that their urethritis can be cured by sexual intercourse with a young virgin" (Sogbetun et al., 1977, p. 158). Sarah Bahalaaliwo, chairwoman of the Uganda Association of Women Lawyers, reports that one of the consequences of the AIDS epidemic in Uganda is that men are seeking ever younger sexual partners such as schoolgirls in the hope that the girls have not yet been exposed to disease (*New York Times*, June 6, 1990, p. A3). In turn, some prostitutes are impersonating schoolgirls in order to attract customers (Hilary Standing and Mere N. Kisekka, *Sexual Behaviour in Sub-Saharan Africa: A Review and Annotated Bibliography* (London: Overseas Development Administration, April 1989), p. 20).

²⁰ In Western industrialized countries, girls who initiate first intercourse early are likely to have more sexual partners than those initiating later; see L. Weström, "Incidence, Prevalence, and Trends of Acute Pelvic Inflammatory Disease and Its Consequences in Industrialized Countries," *American Journal of Obstetrics and Gynecology*, Vol. 138, No. 7, Part 2 (December 1, 1980), p. 885.

²¹ For example, a community-based study of 231 women aged 15-49 in a low-fertility district of rural Uganda found that separated, divorced, and widowed women had the highest rates of gonorrhea (33 percent), single women and women in polygynous unions the second highest rates (25 percent and 24 percent), and women in monogamous unions the lowest (16 percent). See O.P. Arya, H. Nsanzumuhire, and S.R. Taber, "Clinical, Cultural, and Demographic Aspects of Gonorrhea in a Rural Community in Uganda," *Bulletin of the World Health Organization*, Vol. 49 (1973), p. 591.

²² Wasserheit, 1989, pp. 162-3; Hatcher et al., pp. 97-100.

²³ Adrienne Germain and Jane Ordway, *Population Control and Women's Health: Balancing the Scales* (New York: International Women's Health Coalition in cooperation with the Overseas Development Council, 1989), p. 11.

²⁴ Aníbal Faúndes, Ellen Hardy, and José Aristodemo Pinotti, "Commentary on Women's Reproductive Health: Means or End?" *International Journal of Gynecology and Obstetrics*, Supplement 3 (1989), p. 117.

Suggested Reading

This paper draws primarily on Wasserheit, 1989 and 1990, Sherris and Fox, 1983, and Hatcher et al., 1989. Original citations for data presented in this paper can be found in these sources.

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Barbara O. de Zalduondo, Gernard I. Msamanga, and Lincoln C. Chen, "AIDS in Africa: Diversity in the Global Pandemic," *Daedalus*, Vol. 118, No. 3 (Summer 1989), pp. 165-204.

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"New Partnerships in Reproductive Health Care: Women's Organizations as Resources for Progress," Peggy Antrobus and Adrienne Germain. *POPULI*, Vol. 16, No. 4, 1989 (New York: UNFPA). Report of a meeting co-sponsored by IWHC and the Women and Development Unit, University of the West Indies.

"Abortion Policy and Women's Health in Developing Countries," Ruth Dixon-Mueller. *International Journal of Health Services*, Vol. 20, No. 2, 1990. This paper draws on presentations given at The Christopher Tietze International Symposium (1988) and other data to provide a policy analysis.

Women's Health in the Third World: The Impact of Unwanted Pregnancy. Edited by A. Rosenfield, M. Fathalla, A. Germain, and C. Indriso. *International Journal of Gynecology and Obstetrics*, Supplement 3, November 1989. Contains 20 papers commissioned for The Christopher Tietze International Symposium, Brazil, 1988.

Population Control and Women's Health: Balancing the Scales, Adrienne Germain and Jane Ordway (New York: International Women's Health Coalition in cooperation with the Overseas Development Council, 1989). Written for a lay audience, this

paper explains Third World women's interest in and need for comprehensive reproductive health services and suggests means for strengthening existing programs.

"Complete Reproductive Health Care in Indonesia," Ninuk Widjantoro, *PEOPLE*, Vol. 16, No. 4, 1989 (London: IPPF).

"A Study of Costs and Behavioral Outcomes of Menstrual Regulation Services in Bangladesh," Bonnie Kay and Sandra Kabir, *Social Science Medicine*, Vol. 26, No. 6 (1988), pp. 597-604. IWHC-commissioned evaluation of the Bangladesh Women's Health Coalition program emphasizing individual counseling, informed choice, and comprehensive reproductive health care.

"Innovations in Reproductive Health Care: Menstrual Regulation Policies and Programs in Bangladesh," Ruth Dixon-Mueller, *Studies in Family Planning*, Vol. 19, No. 3, May/June 1988 (New York: The Population Council). IWHC-commissioned assessment of the capacity of M.R. training and service programs to provide high quality reproductive health care in Bangladesh.

"The Relation Between Menstrual Regulation Service and the Incidence of Septic Abortion in Indonesia," F. A. Moeloek, et al. University of Indonesia, 1988. Based on research supported by IWHC.

El Aborto en la República Dominicana, Denise Paiewonsky (Dominican Republic: Centro de Investigaciones Para la Acción Femenina-CIPAF, 1988). Research supported by IWHC.

Reproductive Health and Dignity: Choices by Third World Women, Adrienne Germain (New York: The Population Council, 1987). Technical background paper prepared for the International Conference on Better Health for Women and Children through Family Planning, Kenya, October 1987.

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The Bangladesh Women's Health Coalition, Adrienne Germain, Bonnie Kay and Maggie Bangser. To be published in collaboration with The Population Council as part of their *Qualité Series*. Booklet describing the reproductive health needs of women in Bangladesh, and the activities of the Bangladesh Women's Health Coalition.

"Enhancing the Quality of Young Women's Reproductive Health Care." Paper on special counseling needs of young women in Indonesia, Ninuk Widjantoro. Forthcoming, *Development*.

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